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Re:	Our Reference: ST9-98-004 *(IBMZ 2 00018-1 Ser. No. 09/221,542)*

COMMENTS

APPEAL BRIEF

(SECOND SUPPLEMENTAL)

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	**Jacques J. LABRIE**	Group Art Unit:	**2161**
Application No.:	09/221,542	Examiner:	Susan Y. Chen
Filed:	**December 28, 1998**	Docket No.:	**ST9-98-004**

For: **DATA NAVIGATION SYSTEM AND METHOD EMPLOYING DATA TRANSFORMATION LINEAGE MODEL**

MAIL STOP APPEAL BRIEF – PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Transmittal of APPEAL BRIEF (SECOND SUPPLEMENTAL) UNDER 37 C.F.R. § 41.37

Dear Sir:

Applicant transmits herewith one (1) originally signed copy of an APPEAL BRIEF (SECOND SUPPLEMENTAL) UNDER 37 C.F.R. § 41.37 for the above-identified patent application.

No fees are believed to be due. In the event, however, that any fees are due, please charge any and all fees or credit any overpayment to Deposit Account No. 06-0308.

11 APR 07
Date

Respectfully submitted,
FAY SHARPE LLP

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CERTIFICATE OF MAILING OR TRANSMISSION	
I hereby certify that this Appeal Brief (Second Supplemental), (and any item referred to herein as being attached or enclosed) is (are) being ☐ deposited with the United States Postal Service as First Class Mail, addressed to: Mail Stop Appeal Brief Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below. ☒ transmitted to the USPTO by facsimile in accordance with 37 CFR 1.18 on the date indicated below.	
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of: Jacques J. LABRIE

Serial No.: 09/221,542 Group Art Unit: 2161

Filed: December 28, 1998 Examiner: Susan Y. Chen

For: **DATA NAVIGATION SYSTEM AND METHOD EMPLOYING DATA TRANSFORMATION LINEAGE MODEL**

Attorney Docket No.: ST9-98-004

MAIL STOP Appeal Brief - Patents
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF
(SECOND SUPPLEMENTAL)

Under 37 C.F.R. § 41.37

This is an Appeal to the Board of Patent Appeals and Interferences from the decision of the Examiner contained in the Office Action mailed from the U.S. Patent and Trademark Office on May 26, 2005, to the Notification of Non-Compliant Appeal Brief mailed on December 11, 2006, and to the Notification of Non-Compliant Appeal Brief mailed on March 12, 2007 in connection with the above-identified matter.

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I. REAL PARTY IN INTEREST

The real party in interest is International Business Machines Corporation by way of an Assignment recorded in the U.S. Patent and Trademark Office on December 28, 1998 at Reel 9680, Frame 0832.

II. RELATED APPEALS AND INTERFERENCES

There are no prior or pending appeals, interferences or judicial proceedings, known to appellant, appellant's representative, or assignee, that may be related to, or which will directly affect or be directly affected by or have a bearing upon the Board's decision in the pending Appeal.

III. STATUS OF CLAIMS

Claims 1-28 are on appeal.

Claims 1-28 are pending.

None of the claims have been allowed.

None of the claims were objected to only for being dependent from a rejected base claim, but are otherwise allowable.

Claims 1-28 are rejected.

None of the claims have been withdrawn from consideration.

None of the claims have been canceled.

IV. STATUS OF AMENDMENTS

The following is a statement of the status of any amendment(s) filed subsequent to the final rejection.

No amendments were tendered to the pending claims after the final rejection in the Office Action mailed May 26, 2005. However, a Response was filed by Appellant on August 26, 2005 by telefacsimile transmitted to the United States Patent and Trademark Office on August 26, 2005 to facsimile number (571) 273-8300.

Appellant was not favored with a response from the Patent Office in the form of an Advisory Action or any other paper.

To reiterate and for purposes of clarity, the Response filed on August 26, 2005 included no proposed claim amendments. To that end, the claims currently pending in this appeal are of the form considered during examination resulting in the final rejection of the Office Action of May 26, 2005.

It is not clear to Appellant from the record whether the Examiner entered the Response of August 26, 2005 or whether the arguments contained in the Response were considered by the Examiner because, as pointed out, nothing further from the Office has been received by Appellant.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The system (Fig. 1–TLM System 118) of the present application provides a mechanism which enables users to determine the lineage of warehouse data by traversing a transformation model (p. 2, l. 26-29). In this application, lineage refers to the source of the data or the modification that resulted n the current state of the data (p. 5, l. 10, 11).

The subject system provides users with a tree structure (p. 5, l. 8) that represents the data the users wish to view. The system allows users to select any data that they want to access (p. 5, l. 9) which can be anywhere on the tree. If the users have questions about how the data they are looking at was derived, the users navigate the information catalog via the tree structure to see any "transformations" that were applied to generate the data. From this point, the users can continue with their data analysis or continue to follow the lineage by looking at the metadata about the source data. The present system enables users to drill from the target warehouse data back to the original source data and learn how the target warehouse data was derived.

Accordingly, the present system is especially advantageous in that it is used to describe a process applied to data. More particularly, the present system describes to users querying the system the transformation of data as it moves in a data warehouse. Moreover, the system defines the lineage of data. That is, the system indicates to the user what the sources for the warehouse were and/or the modification(s) that resulted in the current state of the data and enables the user to navigate the data (p. 5, l. 10, 11).

In accordance with one embodiment such as set out in independent claim 1, a method of navigating data stored on a data storage device (Fig. 1, 106) connected to a computer (Fig. 1, 100) is provided. A target data object in the information catalog (Fig. 2, 202 and Fig. 5, 508) is selected in response to receiving input (Fig. 1, 112) from a user navigating a plurality of data objects stored in an information catalog (p. 2, l 2, 28) (Fig. 2, 202) and (Fig. 5, 508). Further, information is provided about source data (Fig. 5, 502, 504) from which the target data object (Fig. 5, 506) was derived via a

transformation performed on the source data to derive the target data object (p. 2, l. 28, 30).

In accordance with one aspect of the embodiment such as in claim 2, the target data object is represented as a node in a tree structure (p. 5, l. 8) (Fig. 6, 602).

In accordance with a further aspect of the embodiment such as in claim 3, the step of providing information further includes providing transformation information (Fig. 6, 606), the transformation information comprising information about a transformation performed on the source data to derive the target data object (p. 5, l. 10, 11).

Still further such as in claim 4, the step of providing the transformation information further comprises identifying a transformation producing function (Fig. 6, 610) (p. 11, l. 28) used to transform the source data.

Yet still further such as in claim 5, the step of providing the information further comprises providing lineage information (p. 11, l. 14) (Fig. 5, 508) (Fig. 8, 800) which identifies the source data (Fig. 8, 802).

With yet a still further aspect of the embodiment such as in claim 6, the step of maintaining transformation models (p. 12, l. 13, 15) for use in providing the lineage information, the transformation models (Fig. 7, 704) maintaining information about the source data (Fig. 8, 802) of the target data object.

In accordance with another embodiment such as set out in independent claim 7, an apparatus is provided for navigating data. The apparatus comprises a computer (Fig. 1, 100) having a memory (Fig. 1, 104) and a data storage device (Fig. 1, 106) coupled thereto that stores the data in an information catalog (Fig. 1, 120) (Fig. 2, 202), and one or more computer programs, performed by the computer, for, in response to receiving input from a user navigating the data stored in the information catalog, selecting a target data object (Fig. 6, 606) stored in the information catalog (p. 2, l. 27, 28) and providing information about source data (Fig. 6, 602) from which the target data object was derived via a transformation (Fig. 6, 610) performed on the source data (p. 2, l. 28, 30).

In accordance with one aspect of the embodiment such as in claim 8, the target data object is represented as a node in a tree structure (p. 5, l. 8) (Fig. 6, 602).

In accordance with a further aspect of the embodiment such as in claim 9, the one or more computer programs comprise means for providing transformation information, the transformation information (Fig. 6, 606) comprising information about a transformation performed on the source data to derive the target data object (p. 5, l. 10, 11).

Still further such as in claim 10, the transformation information identifies a transformation producing function (Fig. 6, 610) used to transform the source (p. 11, l. 28).

Yet still further such as in claim 11, the one or more computer programs comprise means for providing lineage (p. 11, l. 14) (Fig. 5, 508) information which identifies the source data.

With yet a still further aspect of the embodiment such as in claim 12, means are provided for maintaining transformation models (p. 12, l. 13, 15) (Fig. 7, 704) for use in providing the lineage information, the transformation models maintaining information about the source data (Fig. 8, 802) of the target data object.

In accordance with another embodiment such as set out in independent claim 13, an article of manufacture is provided comprising a program storage medium readable by a computer (Fig. 1, 100) and embodying one or more instructions executable by the computer (Fig. 1, 100) to perform method steps for navigating data stored in an information catalog (p. 2, l. 2-28) (Fig. 2, 202) on a data storage device (Fig. 1, 106). The method steps include in response to receiving input (Fig. 1, 112) from a user navigating a plurality of data objects stored in the information catalog (Fig. 2, 202) and (Fig. 5, 508), selecting a target data object (Fig. 6, 606) stored in the information catalog (p. 2, l. 27, 28), the target data object being derived by a transformation (Fig. 6, 610) performed on source data; and providing information (Fig. 5, 508) about the source data from which the target data object was derived (p. 2, l. 28, 30).

In accordance with one aspect of the embodiment such as in claim 14, the target data object is represented as a node in a tree structure (Fig. 6, 602) (p. 5, l. 8).

In accordance with a further aspect of the embodiment such as in claim 15, the step of providing information further comprises providing transformation information

(Fig. 6, 606), the transformation information comprising information about a transformation performed on the source data to derive the target data object (p. 5, l. 10, 11).

Still further such as in claim 16, the step of providing transformation information further comprises identifying a transformation producing function (Fig. 6, 610) (p. 11, l. 28) used to transform the data source.

Yet still further such as in claim 17, the step of providing the information further comprises providing lineage information (p. 11, l. 14) (Fig. 5, 508) which identifies the source data.

With yet a still further aspect of the embodiment such as in claim 18, the method further comprises the step of maintaining transformation models (Fig. 7, 704) for use in providing the lineage information, the transformation models (p. 12, l. 13, 15) maintaining information about the source data (Fig. 8, 802) of the target data object.

In accordance with another embodiment such as set out in independent claim 19, a method of navigating data in a data warehouse stored in a data storage device (Fig. 1, 106) connected to a computer (Fig. 1, 100) is provided. The method (Fig. 6) includes receiving input (Fig. 1, 112) from a user navigating a plurality of data objects stored in the data warehouse selecting a target data object, the target data object derived from one or more transformations (Fig. 6, 610) performed on one or more sources of data (p. 12, l. 21-25); selecting the target data object in response to receiving said the input (p. 2, l. 27, 28); and providing information (Fig. 5, 508) about at least one of the one or more sources of data (p. 2, l. 28, 30) (Fig. 6).

In accordance with a further aspect such as in claim 20, the target data object is represented as a node in a tree structure (p. 5, l. 8) (Fig. 6, 602).

In accordance with a further aspect such as in claim 21, the information is represented as a node in a tree structure (p. 5, l. 8) (Fig. 6, 602).

In accordance with a further aspect such as in claim 22, the information comprises information about at least one of the one or more transformations (p. 5, l. 10, 11) (Fig. 6, 610 & 612) performed on the one or more sources of data to derive the target data object.

In accordance with a further aspect such as in claim 23, the information identifies a transformation producing function (p. 11, l. 28) (Fig. 7, 704) used by at least one of the one or more transformations.

In accordance with a further aspect such as in claim 24, the information identifies program logic (Fig. 6, 612) and (Fig. 7, 704) for at least one of the one or more transformations (p. 10, l. 24, 26).

In accordance with a further aspect such as in claim 25, the information comprises lineage information (Fig. 5, 508) which identifies at least one of the one or more sources (p. 11, l. 14) (Fig. 8, 802).

In accordance with a further aspect such as in claim 26, the embodiment, further includes maintaining one or more transformation models (Fig. 7, 704) for providing the lineage information, the one or more transformation models maintaining information about the one or more sources of data (p. 12, l. 13, 15) (Fig. 8, 802).

In accordance with another embodiment such as set out in independent claim 27, a computer-readable medium (p. 4, l. 21-27) having contents for causing a computer-based information handling system (Fig. 1, 100) to perform steps (Fig. 8) for navigating data in a data warehouse stored in a data storage device connected to a computer-based information handling system (Fig. 1, 100 and Fig. 2, 200) is provided (p. 12, l. 21-25). The steps performed include receiving input from a user navigating a plurality of data objects stored in the data warehouse selecting a target data object (Fig. 8, 800), the target data object derived by one or more transformations performed on one or more sources of data (p. 12, l. 21-25); selecting the target data object (Fig. 8, 800) in response to receiving the user input (p. 2, l. 27, 28); and providing information (Fig. 8, 802) (p. 5, l. 10-11) about at least one of the one or more sources of data (p. 2, l. 28, 30) (Fig. 8, 802) (p. 9, l. 28 – p. 10, l. 3).

In accordance with another embodiment such as set out in independent claim 28, a system (Fig. 1, 100 and Fig. 2, 200) (p. 4, l. 21-27) for navigating data (p. 9, l. 9-16) in a data warehouse stored in a data storage device connected to a computer-based information handling system (Fig. 1, 100) is provided. The system includes a plurality of data objects (FIGS. 5, 6, 7), including a target data object (Fig. 5, 506), the target data object derived via one or more transformations performed on one or more

sources of data; a transformation lineage system (TLM 118, p. 9, l. 24 ...) which stores transformation lineage information (p. 5, l. 10-11) for the target data object, the transformation lineage information associating the target data object with the one or more transformations and identifying the one or more data sources (p. 11, l. 10-19); a user interface (FIGS. 3, 4) for receiving user input for selecting a selected one of the plurality of data objects; and the user interface configured to display the transformation lineage information (p. 9, l. 28 – p. 10, l. 3) in response to receiving user input selecting the target data object.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The following grounds of rejection are presented for review:

Claims 1-28 stand rejected as anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 5,315,709 to Alston, Jr., et al.

The issues presented on Appeal are as follows:

1. Whether claims 1-18 are unpatentable under 35 U.S.C. § 102(b) over Alston, Jr., et al.

2. Whether claims 19-27 are unpatentable under 35 U.S.C. § 102(b) over Alston, Jr., et al.; and

3. Whether claim 28 is unpatentable under 35 U.S.C. § 102(b) over Alston, Jr., et al.;

VII. ARGUMENT

Appellant contests the rejection of claims 1-28 as being anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 5,315,709 to Alston, Jr., et al.

Appellant respectfully submits the arguments below.

A. Background

The Alston patent teaches a system and apparatus for simply transforming objects in a first data model (source design objects) to objects in a second data model (target design objects) and synchronizing the two data models. In the preferred embodiment described, the first data model is an extended entity model and the second data model is a relational data model. In the Alston patent, the objects in the first and second data models are the same data, merely transformed. Further in Alston, the only action described with regard to the source design objects and target design objects is a synchronizing process for use between the two data models.

The method and apparatus taught in the Alston patent is not at all concerned with providing users with information about source data from which target data objects were derived via a transformation performed on the source data to derive the target data object. Rather, the system taught in Alston is concerned with synchronizing a pair of different data models. Figure 1C shows a simplified view of the separate and distinct nature of the first and second data models 52, 62 in separate first and second design spaces 50, 60, respectively. In the system taught there, upon the establishment of a user of a data model in one design space, it may be desirable to establish a data model in another design space which corresponds to the same information. The system addresses the event when user interaction with one or both of the data models occurs which modifies one of the respective data models so that the data models are no longer in correspondence with a common information set. In those circumstances, it is desirable to transform or translate a resultant model in its space to the other model in the other space. This process is referred to as "engineering" in the Alston patent.

It is to be noted that the user's modification to the objects in the first data model are not stored or otherwise made a part of a lineage information relating to the data. In Alston information on the modifications is lost and only the modified object itself is saved for use in the first data model and for use in synchronizing the objects in the second data model to conform with the modified object(s) in the first data model. Also, in Alston, the synchronizing of the objects in the second data model based on modification of objects in the first data model does not result in any information on the modification available for presentation to the user. When objects in the first data model are modified, the objects in the second data model are "synchronized" and thus changed/transformed, but no information on the transformation itself is made available to the user.

As described in the Alston patent beginning at column 9, line 45, it is a design goal to generate, modify, and maintain parallel data models in each of two design spaces, for example, an Analyst design in the first design space and a DB2 design in the second design space, where the two designs correspond to the same data, or information in a synchronized manner. To maintain flexibility for the user, the system of Alston permits modifications of the two designs by allowing a user to independently modify one or both of the designs during predetermined time intervals, and then following each such interval, synchronize the resultant divergent designs, so that they again correspond to the same data.

Thus, the method and system taught in Alston does not provide information about source data from which target data objects were derived via a transformation performed on the source data. Rather, the system simply coordinates or "synchronizes" parallel data models in each of two design spaces. Information on "generations" of modified data or on the synchronizing transformation is not saved or otherwise made available to the user.

In addition to the above, the data models are separate and distinct and reside in two separate design spaces in Alston. The Alston disclosure does not teach or suggest navigating a plurality of data objects stored in an information catalog.

B. Claims 1-18 are not anticipated by Alston, Jr., et al.

Independent claim 1 recites a method of navigating data stored on a data storage device connected to a computer, comprising the steps of: in response to receiving input from a user navigating a plurality of data objects stored in an information catalog, selecting a target data object in the information catalog; and providing information about source data from which the target data object was derived via a transformation performed on said source data to derive said target data object.

Similarly, independent claim 7 recites an apparatus for navigating data, comprising: a computer having a memory and a data storage device coupled thereto that stores the data in an information catalog; and one or more computer programs, performed by the computer, for, in response to receiving input from a user navigating the data stored in the information catalog, selecting a target data object stored in the information catalog and providing information about source data from which the target data object was derived via a transformation performed on said source data.

Similarly, independent claim 13 recites an article of manufacture comprising a program storage medium readable by a computer and embodying one or more instructions executable by the computer to perform method steps for navigating data stored in an information catalog on a data storage device, the method comprising: in response to receiving input from a user navigating a plurality of data objects stored in the information catalog, selecting a target data object stored in the information catalog, the target data object being derived by a transformation performed on source data; and providing information about the source data from which the target data object was derived.

Referring to the Office Action in greater detail, all pending claims were rejected under 35 U.S.C. § 102(b) as being anticipated by the Alston patent. This rejection, however, is traversed. It is well-established that to be anticipatory, a reference must disclose each and every claim limitation. Alston fails to disclose each and every element of the rejected claims.

More particularly, the Examiner, as in the previous Office Action, and particularly in reference to independent claims 1, 7, 13, 19, and 27-28, continues to take the position in the record that "Alston discloses a computer system with

means/methods/computer program product to perform the functions as claimed by Appellant comprising:

a) a computer having a memory, and a data storage device coupled thereto that stores data;

b) one or more computer programs, performed by the computer, for, in response to receiving user input, selecting a target object in an information catalog and providing information about a source data from which the target object was derived via a transformation performed on contents of the source data;

c) a plurality of objects including a target object wherein the target object was derived from one or more transformations of one or more sources of data;

d) a transformation lineage system which stores transformation lineage information for the target object, the transformation lineage information associating the target object with the one or more transformations and identifying the one or more data sources;

e) a user interface for receiving user input for selecting one of the plurality of objects; wherein, the user interface configure (sic) to display the transformation lineage information in response to receiving user selected input."

The Examiner, in a "Response to Arguments" section of the Action took the position that Alston clearly discloses a graphical user interface that allows users to navigate and transform objects in a first data model to objects in a second data model.

With regard to this position, Appellant respectfully submits that although Alston discloses a graphic user interface and the transformation of objects in a first data model to objects in a second data model, it falls short of receiving input from a user navigating data objects stored in an information catalog selecting a target data object in the information catalog and providing information about source data from which the target data object was derived via a transformation performed on the source data to derive the target data object. Rather, the system taught in Alston is a "moving forward" system wherein objects are transformed from a first data model to a second data model and, upon changes to objects in the first data model, corresponding changes or "synchronization" modifications are made to objects in the second data model. The

Alston system does not permit providing information about source data from which a selected target data object was derived via a transformation performed on the source data.

Next, it is respectfully submitted that the Examiner misunderstood Appellant's argument made in the previous paper with regard to the differences between "navigating" data and "synchronizing" data. The Examiner now states in the record that she did not assert or imply that navigating data is the same as synchronizing data. Appellant now agrees with this position. Navigating data is not the same as synchronizing data. To that end, it is to be pointed out that the independent claims in the pending application relate to navigating data and not synchronizing data. The recited limitation clearly is directed to a user navigating data. The Alston patent, in contrast, teaches a synchronizing of data.

Lastly in the Action, the Examiner alleged that Appellant's argument relies upon features not recited in the claims. However, as an example, independent claim 1 recites a method of navigating data stored on a data storage device comprising selecting a target data object in an information catalog and providing information about source data from which the target data object was derived via a transformation performed on the source data to derive the target data object. The target data object is selected in response to receiving input from a user navigating a plurality of data objects stored in the information catalog. Appellant relies upon the recitations contained in the independent claims pending in this application.

The Examiner previously asserted that Alston discloses the transformation of the source data to derive the target object via keys, citing col. 17, line 45 – col. 18, line 20, and Fig. 6. The Examiner further asserted that the split screen provides information about source (152 in Fig. 6) from which a target object (154 in Fig. 6) was derived.

Appellants respectfully traverse the Examiner's position regarding the teachings of Alston. The Examiner has perhaps misunderstood and, therefore, misinterpreted Fig. 6 and the cited columns of Alston. Brief overviews of the embodiments described by Alston and the present application are in order here to clarify the novel features claimed by Appellants.

The Abstract of Alston simply describes synchronization of two data models i.e., source design objects and target design objects. However, the target and design models (52 and 62 in Fig. 1B and 1C, col. 8, lines 26-34) are not collections of data from the DB2 database 46 but, rather definitions of different views of the data objects in the database 46. To clarify this further, quoting from col. 1, lines 23-31, "The implementation of an information management system utilizing database management technology involves the concept of dual data representation: i.e., logical representation; and physical representation. Logical representation relates to the form in which the data records are presented to and interact with the system user. Physical representation relates to the form in which individual data records are stored and how the records are manipulated by the computer system." Alston only discloses one source for data objects, namely the DB2 catalog 46 which is viewed differently by different users, e.g., an Entity-Relationship (E-R) type of data model versus a relational model where the objects are represented by tables and associated columns (col. 1, line 65 – col. 2, line 8).

The transformations disclosed in Alston relate to design object transformations (Abstract), rather than target data transformations as described in the present application. For example, Alston describes a first data model as an extended entity data model and a second data model as a relational data model, and the objects being transformed are design objects, not data objects (col. 4, lines 28-40). The data models are used to interact with the database 46 via the SQL file 16 (col. 7, line 64 – col. 8, line 6).

With regard to synchronization, Alston teaches synchronization of the data models in the design spaces 50 and 60 (col. 9, lines 58-68), but is silent with regard to synchronization of target data because there is only one source for target data, namely the database 46, and no synchronization is needed.

With reference to Fig. 6 of Alston, the Examiner cited this as an example of transformation of source data, however, Alston is only describing processing the relationship between entities as objects (col. 17, lines 45-47), and there is no suggestion of navigating data targets in the DB2 database 46. Nor is there any suggestion in Alston that the data in the database is transformed; only the design by which the data is accessed is transformed, either from an extended entity model to a relational model

(forward engineering), or vice versa (reverse engineering), as defined in col. 2, lines 17-28.

As opposed to Alston, however, the present application allows a user to access data derived from any number of database sources on one or more data processing nodes (page 5, lines 26-29). The information catalog system permits users to find what data is available in their environment, and to organize the data in the information catalog system, and to access the data itself when needed (page 5, lines 19-25). Because the information catalog system enables users to determine what information should be captured as warehouse data, what it is called, and how it is organized, a transformation lineage model is provided as a mechanism to advantageously enable a user to determine the lineage of the warehouse data by traversing a transformation model. The system allows users to select any data that they want to access, which can be anywhere on a tree. If the users have questions about how the data they are looking at was derived, the users can navigate the information catalog via the tree structure to see any "transformations" that were applied to generate the data. Alston does not teach any such transformations of data, but rather, only the transformation of one design model to another which is unrelated to target data transformations. A user may access the data in the database 46 of Alston by either of the disclosed design models, but there is no suggestion or teaching that the data itself is transformed, let alone a teaching that the user may view information about how the data was transformed.

In addition to the above, the system in Alston is not responsive to input from users navigating a plurality of objects to provide information about source data from which the selected target data object was derived. Rather, simply, the system of Alston synchronizes parallel data models in each of two design spaces and merely enables the user to view the relationships between the design objects in different design spaces. This is set out in Alston at column 11, beginning at line 22. To that end, Alston simply provides maps in association with the objects in the source and design spaces. The maps serve to enable users to drive the forward or reverse engineering, to view the relationships between the design objects in the different design spaces, and to synchronize the two data models. However, Alston falls short of providing information about the source data from which the selected target data object was derived via a

transformation. The system of Alston simply enables user to view the relationship between design objects and different design spaces. The objects are simply set out in a side-by-side display such as shown in Figure 3A. No information about the source data is displayed, only that source data exists.

In addition to the above, the system of Alston does not at all provide transformation information which is information about the transformation performed on the source data to derive the target data. This is clearly recited in claims 3, 9, 15, 22, and 26.

For at least the above reasons, and particularly because the subject independent claims 1, 7, and 13 clearly include the limitation of navigating data and providing information about source data from which target data was derived via a transformation performed on the source data to derive the target data, it is respectfully submitted that the Alston, Jr. '709 patent does not teach, suggest, or fairly disclose the invention recited in these pending claims. Claims 2-6 depend from claim 1, claims 8-12 depend from claim 7, and claims 14-18 depend from claim 13.

A withdrawal of the rejection of claims 1-18 over this prior art patent and allowance of claims 1-18 is respectfully requested.

C. Claims 19-27 are not anticipated by Alston, Jr., et al.

Independent claim 19 recites a method of navigating data in a data warehouse stored in a data storage device connected to a computer, comprising: receiving input from a user navigating a plurality of data objects stored in the data warehouse selecting a target data object, said target data object derived from one or more transformations performed on one or more sources of data; selecting the target data object in response to receiving said user input; and providing information about at least one of said one or more sources of data.

Similarly, independent claim 27 recites a computer-readable medium having contents for causing a computer-based information handling system to perform steps for navigating data in a data warehouse stored in a data storage device connected to a computer-based information handling system, the steps comprising: receiving input from a user navigating a plurality of data objects stored in the data warehouse selecting

a target data object, said target data object derived by one or more transformations performed on one or more sources of data; selecting the target data object in response to receiving said user input; and providing information about at least one of said one or more sources of data.

Again, Appellant respectfully traverses the rejection of independent claims 19 and 27. It is well-established that to be anticipatory, a reference must disclose each and every claim limitation. Alston fails to disclose each and every element of the rejected claims.

For reasons discussed above in connection with independent claims 1, 7, and 13, the Examiner has not identified in the Alston reference disclosure, teachings, or suggestions of each and every limitation set out in claims 19 and 27. More particularly, nowhere in the Office Action does the Examiner identify in the Alston patent steps of receiving input from a user navigating a plurality of data objects stored in a data warehouse selecting a target data object, the target data object derived from one or more transformations performed on one or more sources of data. Each of independent claims 19 and 27 include these limitations. Further, the Examiner nowhere in the Office Action identified in the Alston reference the step of selecting the target data object in response to receiving the user input. Each of independent claims 19 and 27 include these limitations. Lastly, nowhere in the Office Action has the Examiner identified in the Alston reference the step of providing information about at least one of the one or more sources of data. Each of independent claims 19 and 27 include these limitations.

For at least the above reasons, and those set out above in connection with claims 1-18, appellant respectfully submits that the Alston reference is not anticipatory because it does not disclose each and every element clearly recited in independent claims 19 and 27. Claims 20-26 depend from independent claim 19 and, therefore, include the limitations of claim 19.

Therefore, it is submitted that independent claim 19 and claims 20-26 dependent therefrom and claim 27 are patentably distinct and unobvious in view of Alston. Allowance of claims 19-27 is respectfully requested.

D. Claim 28 is not anticipated by Alston, Jr., et al.

Independent claim 28 recites a system for navigating data in a data warehouse stored in a data storage device connected to a computer-based information handling system, comprising: a plurality of data objects, including a target data object, said target data object derived via one or more transformations performed on one or more sources of data; a transformation lineage system which stores transformation lineage information for the target data object, said transformation lineage information associating the target data object with said one or more transformations and identifying said one or more data sources; a user interface for receiving user input for selecting a selected one of said plurality of data objects; and said user interface configured to display said transformation lineage information in response to receiving user input selecting said target data object.

For at least the reasons set out above in connection with claims 1-27, Appellant respectfully submits that the Alston patent is not an anticipatory reference against independent claim 28 because it does not disclose each and every claim limitation. Further, the Examiner has not identified in the Alston reference teachings of each and every limitation set out in independent claim 28.

More particularly, nowhere in the Office Action has the Examiner identified a system for navigating data in a data warehouse stored in a data storage device connected to a computer-based information handling system including a plurality of data objects, including a target data object derived via one or more transformations performed on one or more sources of data. The Examiner has not identified in Alston a system including a transformation lineage system which stores transformation lineage information for the target data object, the transformation lineage information associating the target data object with the one or more transformations and identifying the one or more data sources. Further, the Examiner has not identified in the Alston patent a teaching in a system as set out in claim 28 a user interface for receiving user input for selecting a selected one of the plurality of data objects. Lastly, the Examiner has not identified in Alston the claim limitation of the user interface being configured to display the transformation lineage information in response to receiving user input selecting the target data object.

According to the above, therefore and for reasons set out in connection with claims 1-27, it is respectfully submitted that the Alston patent fails to disclose each and every element of the rejected claim 28. Accordingly, the Alston patent is not an anticipatory reference against that claim.

Allowance of claim 28 is respectfully requested.

VIII. CLAIMS APPENDIX

The status of the claims is as follows after the Response to the Final Office Action:

1. (Previously Presented) A method of navigating data stored on a data storage device connected to a computer, comprising the steps of:

in response to receiving input from a user navigating a plurality of data objects stored in an information catalog, selecting a target data object in the information catalog; and

providing information about source data from which the target data object was derived via a transformation performed on said source data to derive said target data object.

2. (Previously Presented) The method of claim 1, wherein the target data object is represented as a node in a tree structure.

3. (Previously Presented) The method of claim 1, wherein the step of providing information further includes providing transformation information, said transformation information comprising information about a transformation performed on said source data to derive said target data object.

4. (Previously presented) The method of claim 3, wherein the step of providing said transformation information further comprises identifying a transformation producing function used to transform said source data.

5. (Previously presented) The method of claim 1, wherein the step of providing said information further comprises providing lineage information which identifies said source data.

6. (Previously Presented) The method of claim 5, further comprising the step of maintaining transformation models for use in providing the lineage information, said transformation models maintaining information about the source data of the target data object.

7. (Previously Presented) An apparatus for navigating data, comprising:

a computer having a memory and a data storage device coupled thereto that stores the data in an information catalog;

one or more computer programs, performed by the computer, for, in response to receiving input from a user navigating the data stored in the information catalog, selecting a target data object stored in the information catalog and providing information about source data from which the target data object was derived via a transformation performed on said source data.

8. (Previously Presented) The apparatus of claim 7, wherein the target data object is represented as a node in a tree structure.

9. (Previously Presented) The apparatus of claim 7, wherein said one or more computer programs comprise means for providing transformation information, said transformation information comprising information about a transformation performed on said source data to derive said target data object.

10. (Previously Presented) The apparatus of claim 9, wherein the transformation information identifies a transformation producing function used to transform said source.

11. (Previously Presented) The apparatus of claim 7, wherein said one or more computer programs comprise means for providing lineage information which identifies said source data.

12. (Previously Presented) The apparatus of claim 11, further comprising means for maintaining transformation models for use in providing the lineage information, said transformation models maintaining information about the source data of the target data object.

13. (Previously Presented) An article of manufacture comprising a program storage medium readable by a computer and embodying one or more instructions executable by the computer to perform method steps for navigating data stored in an information catalog on a data storage device, the method comprising:

in response to receiving input from a user navigating a plurality of data objects stored in the information catalog, selecting a target data object stored in the information catalog, the target data object being derived by a transformation performed on source data; and

providing information about the source data from which the target data object was derived.

14. (Previously Presented) The article of manufacture of claim 13, wherein the target data object is represented as a node in a tree structure.

15. (Previously Presented) The article of manufacture of claim 13, wherein the step of providing information further comprises providing transformation information, said transformation information comprising information about a transformation performed on said source data to derive said target data object.

16. (Previously presented) The article of manufacture of claim 15, wherein the step of providing transformation information further comprises identifying a transformation producing function used to transform said data source.

17. (Previously presented) The article of manufacture of claim 13, wherein the step of providing said information further comprises providing lineage information which identifies said source data.

18. (Previously Presented) The article of manufacture of claim 17, wherein said method further comprises the step of maintaining transformation models for use in providing the lineage information, said transformation models maintaining information about the source data of the target data object.

19. (Previously Presented) A method of navigating data in a data warehouse stored in a data storage device connected to a computer, comprising:

receiving input from a user navigating a plurality of data objects stored in the data warehouse selecting a target data object, said target data object derived from one or more transformations performed on one or more sources of data;

selecting the target data object in response to receiving said user input; and

providing information about at least one of said one or more sources of data.

20. (Previously Presented) The method of claim 19, wherein the target data object is represented as a node in a tree structure.

21. (Previously Presented) The method of claim 19, wherein said information is represented as a node in a tree structure.

22. (Previously Presented) The method of claim 19, wherein said information comprises information about at least one of said one or more transformations performed on said one or more sources of data to derive said target data object.

23. (Previously Presented) The method of claim 22, wherein said information identifies a transformation producing function used by at least one of said one or more transformations.

24. (Previously Presented) The method of claim 22, wherein said information identifies program logic for at least one of said one or more transformations.

25. (Previously Presented) The method of claim 19, wherein said information comprises lineage information which identifies at least one of said one or more sources.

26. (Previously Presented) The method of claim 25, further comprising maintaining one or more transformation models for providing said lineage information, said one or more transformation models maintaining information about said one or more sources of data.

27. (Previously Presented) A computer-readable medium having contents for causing a computer-based information handling system to perform steps for navigating data in a data warehouse stored in a data storage device connected to a computer-based information handling system, the steps comprising:

receiving input from a user navigating a plurality of data objects stored in the data warehouse selecting a target data object, said target data object derived by one or more transformations performed on one or more sources of data;

selecting the target data object in response to receiving said user input; and

providing information about at least one of said one or more sources of data.

28. (Previously Presented) A system for navigating data in a data warehouse stored in a data storage device connected to a computer-based information handling system, comprising:

a plurality of data objects, including a target data object, said target data object derived via one or more transformations performed on one or more sources of data;

a transformation lineage system which stores transformation lineage information for the target data object, said transformation lineage information associating the target data object with said one or more transformations and identifying said one or more data sources;

a user interface for receiving user input for selecting a selected one of said plurality of data objects; and

said user interface configured to display said transformation lineage information in response to receiving user input selecting said target data object.

IX. EVIDENCE APPENDIX

None

X. RELATED PROCEEDINGS APPENDIX

None

CONCLUSION

For at least the above reasons, appellant respectfully submits that all pending claims are novel, patentably distinct and unobvious over the references of record.

Allowance of all claims and early notice to that effect is respectfully requested.

Respectfully submitted,

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